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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,013

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John Apostolopoulos

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EXAMINER

LEE, CHI HO A

ART UNIT

PAPER NUMBER

2616

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/623,013	Applicant(s) APOSTOLOPOULOS ET AL.	
	Examiner Andrew Lee	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-20, 22-34 and 36-42 is/are rejected.
- 7) ☒ Claim(s) 8, 21 and 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-42 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 16-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Re Claims 16 and 28 are directed toward a single means.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 4-6, 9, 10, 12, 27, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of admitted prior art Page 15, lines 10-19.

Re Claims 1, 27, 40, Niemela teaches a transmitting end (See fig. 5) interleaving a first order of coded data blocks (receiving media packets in a first order); retransmitting by changing the interleaving order of the coded data blocks (a second order) wherein fig. 4 teaches that the retransmission is based on the quality (See col. 6, lines 26 +) to reduce distortion at the receiving end. Niemela fails to explicitly teach, "a predicted distortion from the first order.". However, Applicant admits that "predicting the distortion for a given media sequence and a given packet loss pattern are known in the art.". In particular, the admitted prior art suggests that these "models" can be chosen as a preferred interleaver to maintain quality. One skilled in the art would have been motivated to have used the known modeling to mitigate for distortion. Therefore, it would have been obvious to have used the "predicted distortion" for reliability.

Re Claim 2, refer to Claim 1, wherein the packet losses can be determined from the second order transmission to determine a loss pattern.

Re Claim 4, refer to Claim 1, wherein function of fig. 4 (a schedule adapter).

Re Claim 5, refer to Claim 4, wherein fig. 5 includes an interleaver.

Re Claim 6, refer to Claim 4, wherein the function can be computer readable codes to control the interleaver.

Re Claims 9, 10, refer to Claim 1, wherein the fig. 4 teaches determining quality in real time (loss characteristics).

Re Claim 12, refer to Claim 1, wherein the quality is based on packet loss.

6. Claims 3, 17, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of admitted prior art Page 15, lines 10-19 as applied to claim 1 above and further in view of U.S. patent 7,164,680.

Re Claims 3, 17, 30, Niemela in view of admitted prior art fails to explicitly teach, "storing said media packets in said first order prior to said transmitting.". However '680 patent teaches storing copies of the transmission packets for a predetermined period for retransmission of lost packets (See abstract). One skilled in the art would have been motivated to store copies of the media packet to enable efficient retransmission of lost packets.

7. Claims 7, 14, 15, 20, 25, 26, 28, 34, 41, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of admitted prior art Page 15, lines 10-19 as applied to claim 1 above and further in view of U.S. patent 6,959,048.

Re Claims 7, 14, 15, 20, 25, 26, 28, 34, 41, 42, Niemela in view of admitted prior art fails to explicitly teach, "selecting said schedule....from a plurality of adapters.". However, '048 patent teaches in fig. 2, a Controller 240 coupled to a interleaver 204 and includes a interleaver selection means (See col. 8, lines 48-60) based on the channel quality. One skilled in the art would have been motivated to include the interleaver selection means into the teaching of Niemela in view of admitted prior art for reliability.

8. Claims 11, 24, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemela in view of admitted prior art Page 15, lines 10-19 as applied to claim 1 above and further in view of U.S. patent 6,289,054.

Re Claims 11, 24, 38, Niemela in view of admitted prior art fails to explicitly teach, “accumulates...channel characteristics...interval.”. However, ‘054 teaches the Statistics Gathering/Reporter 412 for monitoring and accumulating the channel characteristics and reporting back to the transmitter. One skilled in the art would have been motivated to use the accumulated information with the predicted modeling for selecting the interleaver with the lowest distortion.

Re Claim 11, Niemela in view of admitted prior art

Allowable Subject Matter

9. Claims 8, 21, 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination with claims 1, 4, 7, and 8, prior art fails to teach predicting for adapters corresponding amount of distortions and selecting the adapter according to the predicted distortion.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 16, 18, 19, 22, 23, 29, 31-33, 36, 37, 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Niemela U.S. Patent Number 6,247,150.

Re Claims 16, 29, Niemela teaches a transmitting end (See fig. 5) interleaving a first order of coded data blocks (receiving media packets in a first order); retransmitting by changing the interleaving order of the coded data blocks (a second order) wherein fig. 4 teaches that the retransmission is based on the quality (See col. 6, lines 26 +) to reduce distortion at the receiving end.

Re Claims 18, 31, 32, 33, refer to Claim 4, wherein fig.5 includes an interleaver.

Re Claim 19, refer to Claim 4, wherein the function can be computer readable codes to control the interleaver.

Re Claims, 22, 23, 36, 37, 39 refer to Claim 1, wherein the fig. 4 teaches determining real time quality in (loss characteristics).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 571-272-3130. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firman Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Lee/
Primary Examiner, Art Unit 2616